QUEEN'S UNIVERSITY BIOLOGICAL STATION
USER GUIDE FOR FIELD COURSE PARTICIPANTS

This User Guide is intended to outline matters of safety, QUBS procedures and policy governing use of the field station. Users must read this guide and understand its provisions. This is not a trivial matter since all QUBS users must co-operate in ensuring a safe and productive facility. All users will be required to sign a form acknowledging receiving, reading and abiding by the provisions of this guide.

QUBS Website

This guide and general information is also available at http://biology.queensu.ca/~qubs.

History

Queen's University Biological Station (QUBS) was established in 1945 when Dr. Wes Curran purchased the point on Lake Opinicon from the Acton family on behalf of the University. Some of the buildings on site were erected in the period 1946-1948, notably the boathouse, Trilab and the "Bunkie Junior" cabins. Development has continued since that time, producing a field station facility of some 30+ buildings - living accommodations, food service space, labs, library, aquarium, computing equipment etc. In spring 2000, the new Operations Centre was completed, replacing the old lodge as our central services building. A number of property acquisitions have also taken place: Sheep Island (1950), Hughson Tract (1976), expansion of the main QUBS site by purchase from the Curtis family (1985), Skycroft Tract (1986), Eastern half of Cow Island (1988), Cape-Sauriol Environmental Studies Area (1989), Pangman Conservation Reserve (1994), Bracken Tract (1994), Moores Tract (1995), Crabbe Property (1999), Massassaugua Road Property (2001 - 2003), Boston Wildlands (2004) and reid Property (2008). Presently, QUBS owns some 2,770 hectares (about 6,843 acres) of land.

The Biological Station provides quality living and laboratory facilities close to field study sites for teaching and research in field biology. The QUBS mandate is to provide quality opportunities for teaching and research in biology and the environmental sciences. QUBS facilitates both teaching and research by providing the logistical support for these activities.

Originally a teaching facility, QUBS has increased its research activities since the fifties. Both education and research are important mandates of QUBS. Currently, involvement with the Ontario Universities Program in Field Biology and research programs of researchers from a wide variety of institutions makes QUBS a vital, interesting site for field biology.

In addition, QUBS offers its own programming, in the past, the Naturalists' Workshop and currently hosts a variety of field trips and small conferences each year.

Queen's University provides the financial support for the Biological Station and its operation. In addition, the station is the recipient of a Major Facilities Access grant from NSERC. This grant enables research use of the field station by non-Queen's people. In the past few years, researchers from many Canadian universities, as well as international researchers, have conducted studies at QUBS. This diversity of users contributes to a healthy atmosphere of inquiry into an wide array of research topics.

Administration

QUBS is administered as part of the Department of Biology, Queen's University. The cascade of responsibility for operations is as follows: Dean, Arts and Science; Chairman, Department of Biology; QUBS Director, Dr. Bruce Tufts; QUBS Manager/Senior Instructor, Mr. Frank Phelan; QUBS Assistant Manager, Mr. Floyd Connor. The Director and Manager are responsible for day-to-day operation of the facility and collaborate on planning, reservations and all aspects of general operations. Accounting is handled by Julie French (Admin. Asst.) and Mr. John Topping, Departmental Manager, Department of Biology.

Arrival at QUBS

Immediately upon arrival at QUBS, contact the Manager. He, or his designate will show you to accommodations/lab space/equipment allocated for your use. A copy of the QUBS User Guide will be issued. Familiarize yourself with the guide and keep it handy for reference during your stay.

The Manager or his designate check arriving students with course lists. Advise QUBS management of special medical conditions as soon as possible after arrival. A check will also be made to ensure that students have paid deposits for field courses to their home university. Outstanding balances of field course costs will also be collected.

Map of Main Site

A map detailing the area comprising the main site at QUBS is included in the user guide folder.

Health and Safety

The foremost concern of QUBS staff is the maintenance of a healthy and safe living/working environment at the field station. QUBS users must abide by the safety guidelines outlined herein and do

everything in their power to assist staff with health and safety matters. Field work does entail some risk. Students must be advised of such risks and course instructors must develop plans to minimize the risks of field work, in compliance with Queen's Off-Campus Activity Safety Policy http://www.safety.queensu.ca/policy/activity. QUBS safety officer is the Manager, Mr. Frank Phelan.

911 Emergency System

QUBS is serviced by the 911 emergency system. Dialling 911 gives access to fire, ambulance and police services. In conjunction with the 911 system, a municipal addressing system has been put into place. **If you call 911, you will need to report the municipal address for QUBS:**

QUBS Municipal Address: 280 Queen's University Road, Township of Rideau Lakes, South Crosby Ward
(about 1 mile west of Chaffey's Lock off the Opinicon Road)

Emergency Fire Procedure

Upon detection of a fire, prime concern is for personal safety. Immediately evacuate the building affected. Proceed to nearest exit, shouting "FIRE, FIRE, FIRE". Make sure everyone is out of the building. Ring the alarm bell outside the operations centre and continue ringing to alert all station users (the operations centre has automatic alarms in case of fire in that building). Notify QUBS management immediately and call the local Fire Department using **911** (or 359-5678) if requested to do so (Emergency numbers are posted at each phone). Assemble in the open area immediately in front of the operations centre for head count and further instructions. Field course instructors should always know the whereabouts of their students and should assist QUBS staff in accounting for everyone.

QUBS is provided with smoke detectors (and Carbon Monoxide detectors) in major accommodations, an alarm system in the operations centre and fire extinguishers in all buildings. Familiarize yourself with the warning devices, extinguishers and exits in your living/workspace. However, it is not expected that QUBS users be firefighters. IF the fire is a minor one (a fire less than 1 m^3) and IF you know how to use an adjacent fire extinguisher and IF you have an exit at your back and IF you are sure you can extinguish the fire, then DO SO. If you have ANY doubts, commence emergency fire procedures as outlined above. Property can be replaced, lives cannot. DO NOT TAKE CHANCES.

QUBS has a portable fire pump for firefighting and staff are trained in its use. This will be used when practicable to contain fires until the arrival of the local fire department.

Fire Safety

Fire protection equipment is provided in all living/workspaces. Equipment is routinely inspected. However, if you should notice defects or missing equipment, notify QUBS staff at once.

Fireplaces are provided in several buildings at QUBS. Treat all fires in fireplaces with extreme caution. NEVER leave a fire unattended. ALWAYS use the fire screen.

Outdoor fires may be permitted **IF** conditions are suitable. Outdoor fires will not be permitted under windy or dry conditions or when outdoor burning bans are in place or when such activity interferes with work/sleep schedules of QUBS residents.

Smoking

For health and safety reasons, Queen's University is a smoke-free workplace. At QUBS, there will be no smoking inside ANY building. For safety reasons, there will also be no smoking in boats, station vehicles or in the vicinity of the boathouse and gas shed.

Smoking must be done out-of-doors. When smoking out-of-doors, be careful not to create a fire hazard in the woods. Do not dispose of butts on the grounds.

Meals

Meals are served buffet-style in the operations centre. Station users are expected to bus their own dishes. Normal meal hours are: Breakfast 0730-0830; Lunch 1200-1300; Dinner 1730-1830.

The bell outside the operations centre will toll to announce the start of meal hours. Meals will not be served at other hours unless specified by QUBS management. On Sundays, brunch may be served. When scheduled, brunch will run from 0900-1200.

Meals are prepared with the provision of a balanced, healthy diet in mind. Normally, vegetarian meals are interspersed with the regular menu. Alternatives to meats are generally available for strict vegetarians. If an individual user requires or desires specialized foods, they will have to provide these on their own.

For field work, a box lunch is available. 24 hr. notice is to be given to kitchen staff for box lunches.

Kitchen and food storage areas are off-limits for QUBS users.

Do not remove equipment from the kitchen. Do not help yourself to foodstuffs in fridges or freezers. Snacks will be placed on serving counter or out in the servery. Coffee/tea are always available. For early risers, space will be designated for early breakfast food.

Notify kitchen staff of food allergies, special diet conditions etc.

Keep food and beverage counters clean.

Suggestions for menus are always welcome.

Drinking Water

Safe drinking water (UV sterilized) from a well is provided only to the operations centre and the White House. All other cottages and labs are supplied with untreated water directly from the lake or untested well. During the busy season, the well supply is tested weekly for contaminants. Lake water (or untested well water) is suitable for washing and showering, **not** for drinking. Blue jugs in the kitchens of cottages contain drinking water. Fill these at the operations centre or White House or notify QUBS staff as required.

Disposal

Water-borne disposal (toilets, sinks, showers) in living accommodations ends up in septic systems. These systems need to be treated gently. Unlike municipal water systems, care must be taken with septic systems. Do not dispose of non-biodegradable material in toilets (no plastic). Do not dispose of paper towels or cardboard in toilets. Do not attempt to flush bulky items. No chemicals to be disposed of in sinks or toilets.

Solid waste should be placed in appropriate containers (using clear plastic bags). Animal material should not be placed with garbage. Consult management re burial or alternate disposal. Take care to safely package material which may pose a handling hazard (eg. broken glass, razor blades, pipettes etc.). Do not dispose of chemicals in garbage.

A wide variety of materials is locally recyclable. QUBS actively participates in these programs and encourages all users to co-operate in this effort. A recycling shed is located near the workshop.

Compost containers are found in the operations centre. Please deposit non-animal food scraps for composting. This is a good way to reduce the volume of waste destined for landfill sites and produces an ecologically valuable-end-product.

Housekeeping

QUBS staff attempt to keep common areas clean and tidy. However, housekeeping in individual accommodations and laboratories is the responsibility of the user. In multiple-user accommodations (eg. Curran Cottage), a committee of users should co-operate in keeping common areas clean and tidy. In areas such as the White House which has general-use bathrooms and common areas, the residents have primary responsibility for housekeeping which is supplemented by QUBS staff as necessary. These arrangements are necessary since QUBS does not have the staff required to routinely perform these tasks. Also, costs of housekeeping would undoubtedly be passed on to the user. Your co-operation helps keep costs low.

Simple things like removing outdoor footwear at entrances, carefully wiping your feet and mopping up spills as they happen will greatly assist with keeping QUBS buildings clean and tidy. . In the Operations Centre, it is best to keep a pair of indoor shoes for use exclusively inside the building.

In general, users will consistently assist with housekeeping by applying the rule of thumb, **"Leave it at least as clean as you found it"**.

Swimming

Swimming areas at QUBS are unprotected areas. There is no lifeguard provided. Swimming is entirely at your own risk. Do not swim alone, after dark or while impaired.

There are two swimming areas used at QUBS. Different levels of swimming ability are required for each area. Keast's beach is ideal for children under adult supervision and for poor swimmers. Use of the beach area is sometimes restricted so as to not interfere with ongoing research projects on nesting fish.

The diving board area, with its deep water, should not be used by other than competent swimmers.

Safety equipment in the form of throw rings and ropes are placed by swimming areas. Do not remove or play with safety equipment.

Be advised that the area off the diving board is a channel heavily used by boat traffic. It is dangerous to swim far out from shore or back and forth across this channel.

There are inherent dangers in recreational swimming. Be safe. Recognize the hazards.

Boating

QUBS owns and maintains a fleet of boats. These are NOT for general use. Rather, they are leased to investigators as research tools. Boats are fundamental research tools to field researchers. In addition, they are expensive tools and in inexperienced hands, very dangerous.

Recreational Use: QUBS canoes may be available for recreational use. Users must be familiar with boating safety and use of canoes. Canoes require the following basic safety equipment: a lifejacket for each person (lifejackets must be worn), paddles, 15 m of buoyant heaving line, a bailer and a soundsignalling device (whistle). Be sure that these are in the canoe each and every time it is used..Canoes belonging to the station must be signed out. Do not use private canoes without the permission of the owner. Always let someone know where you are going and when you expect to return

Teaching Use: Special care must be taken when operating boats for teaching purposes. Operators must be trained in boat safety and operation and must have a Pleasure Craft Operator Card.

New Transport Canada regulations class our pontoon boats as small commercial vessels and strict standards, including special safety requirements come into play for these boats. QUBS pontoon boats must

not exceed 11 passengers (including the driver). Operators must have proof of competency to the MED A3 level. PFD's will be worn by all passengers. Small vessel lifejackets are also carried on the pontoon boats at all times.

Large craft with many passengers are difficult to handle and require practice and good judgement. When unskilled users are involved, QUBS staff will pilot boats for teaching purposes.

Operation of boats requires special caution. There are many hazards in Lake Opinicon, especially drowned lands and Rideau Canal traffic. Operators are responsible for their actions and the minimum safety equipment.

Misuse, abuse or dangerous operation of any QUBS boat will not be permitted.

Accident or Injury

Field course instructors are responsible for ensuring safe working conditions for their students. QUBS management MUST be notified immediately of ANY accident or injury sustained while on Queen's Property. The Manager can assist with accident reporting (Institutional and WSIB). First aid and transport for medical attention can also be arranged by the Manager. In serious instances, do not wait for the Manager, call an ambulance via **911** (or 359-5390).

QUBS staff endeavour to provide a safe environment at the field station. QUBS staff will work with Principal Investigators to ensure safe working conditions. If users note deficiencies, hazards or unsafe conditions, report these at once to the Manager. Do not attempt repairs yourself.

First Aid

First aid kits are provided in the lodge, White House, Manager's House, Workshop, Lower Brown Lab and QUBS vehicles. These are inspected regularly. However, if required items are used up or missing, notify the Manager. Even small injuries benefit from prompt attention.

Many QUBS users may have qualifications in first aid, CPR, lifesaving or other skills. Please advise the Manager of special training you have. These qualifications will be noted and may be posted in the lodge. Some of your compatriots may benefit from your abilities.

Laboratory and Field Safety

Although the field course instructor is primarily responsible for laboratory and field safety, students are expected to be aware of hazards and procedures involved in lab and field studies. If you are uncertain about the risks involved in any procedure or activity, ask for direction from your instructor.

All activities at QUBS will comply with Queen's Off-Campus Activity Safety Policy (QUBS is considered to be off-campus) http://www.safety.queensu.ca/policy/activity.

Mail

The correct mailing address for QUBS is:

Queen's University Biological Station
280 Queen's University Road
P.O. Box 31, RR # 1
Elgin, Ontario K0G 1E0

Mail is normally collected from the mailbox on a daily basis. Mail received is placed in the "Royal Snail" baskets in the lodge. Outgoing mail can be placed in the designated basket.

Telephones

The main line connects to phones in the Manager's House, White House and operations centre. These phones are primarily for business calls and for incoming calls. These telephones are programmed for local calling only. The main number at QUBS is **(613)359-5629**. Anyone answering phones is expected to assist the caller in locating the person called or in taking a decipherable message. Messages should be posted on the bulletin board in the lodge.

Personal calls must be made from the "pay phones" in the operations centre (lower level rear portico) or Upper Brown Lab (north end). These general use phones will accept Bell calling cards, prepaid phone cards, or major credit cards. You can also call collect or third party through the Operator. Use of this phone will keep business lines clear and minimize the billing of charges necessitated by uncontrolled use of the main line. These phones are equipped with data ports for electronic communications.

Use of a prepaid phone card for students is strongly encouraged.

A fax machine is available for emergency use of field course participants - contact QUBS management.

E-mail /Internet Access

Our local area network (LAN) at links all of the computers on site. This LAN at QUBS is linked to the outside world via a broadband wireless link. Further, the Operations Centre and Brown Lab and their environs are served by a wireless link to the LAN. E-mail and internet can thus be accessed through computers in the lower hallway and computer room of the Op Ctr or by using your own computer linked to the

LAN by cable or wireless.

Basic Services

Fundamental services (water supply, septic systems, electrical supply, heat, telephones etc.) are the direct responsibility of QUBS management. Point out problems or concerns as they arise. Do not attempt repairs yourself.

Be advised that many of these services are buried. Do not drive stakes/posts/poles or excavate without consulting QUBS management.

In this era of concern for the environment and energy conservation, users should try to conserve energy by minimizing use of basic services. Do not waste water, electricity or heat.

Alcoholic Beverages/Drugs

Queen's University does not permit alcoholic beverages in its workbuildings (operations centre, workshop, aquarium or labs). However, alcoholic beverages are permitted in individual residences. Keep bottles and cans out of plain sight. Even a few empties in plain view give the wrong impression to visitors to QUBS.

There is zero tolerance for illegal drugs at QUBS or on QUBS properties.

It is expected that QUBS users will behave in a sensible and decorous manner at all times.

Road/Gate

The access road into QUBS is narrow, winding and has several blind corners. QUBS users must use extreme caution when using this road. The access road into QUBS is available only through a restrictive lease agreement. Speed limit signs must be obeyed. The gate, when closed to contain cattle, must be kept closed. Violations of these conditions could mean loss of access.

The volume of traffic by QUBS users dictates that special caution be exercised in using the roadways of the field station. Children, walkers, runners and bicyclists share these roadways. Near buildings, slow speeds will reduce the amount of dust created and minimize hazards. Operate all vehicles with utmost care.

Parking

To maintain access to all buildings for users, maintenance vehicles and emergency vehicles, vehicles should not block roadways, ramps, driveways or access to any building. Most vehicles should be parked in the lots next to the workshop. If engaged in early morning or late night work, please park as far away from residences as possible. Cottage dwellers may park near their residences on provision that doing so will not block access. No parking anywhere on the loop down to the boathouse. Stopping to load or unload equipment is permitted. After these operations are completed, the vehicle must be removed to a designated parking area.

Co-operation Among Users

All QUBS users should respect the need for integrity of research projects and make every effort not to disturb other research efforts. In addition, every QUBS user has the right to privacy and non-disturbance.

Be aware that not all users operate by the same schedule. Do not disturb others trying to sleep. Immediately cease disruptive activities upon peer request or when directed by QUBS staff. Research/teaching activities always have priority over recreational ones.

Pets No pets are permitted at QUBS.

Programs

The atmosphere of QUBS should be akin to a co-operative. Users gain a great deal by interacting with each other, management and the local community. A number of programs aid this interaction.

Seminars: A schedule of weekly evening seminars is arranged to facilitate communication of ideas among QUBS regulars, management, visitors and guest speakers.

Public Relations

Research and teaching activities take QUBS users to many parts of the lake and surrounding areas. User activity is often conspicuous and generates curiosity in observers. In the field, you are seen as a representative of the university, QUBS and researchers/teachers in general. Be certain that your observable behaviour in the field is beyond reproach. Make sure that you acquire proper permits for work, ask permission for access to private property and are courteous and careful in field operations. Always remove research paraphernalia from study sites after completion of a study (especially flags, markers).

Be prepared to respond politely to queries from curious observers.

The position of the field station in the community and its ultimate survival as a productive research/teaching environment depends on a good working relationship with local individuals and interests.

Harassment/Discrimination

Queen's University has a comprehensive policy and process for dealing with complaints of

harassment and discrimination. This includes sexual harassment, physical or emotional harassment, discrimination on the basis of sex, race, visible minority or religion and conduct that interferes with your dignity or privacy. Contact the Director or Manager for further information concerning complaint procedures or see www.queensu.ca/secretariat/senate/policies/harass/index.html.

Weapons Policy

In the interest of safety, Queen's University does not normally permit weapons on campus. This same stricture applies to QUBS and its properties. See www.queensu.ca/security/news/weappol.html for full details.

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Other Amenities

Research Property: QUBS owns extensive tracts of land which are available for a variety of research/teaching purposes. Particular needs should be discussed with QUBS management.

GPS (Global Positioning System) Equipment: QUBS owns two Trimble GPS backpack units with submetre accuracy and real-time correction capability. In addition, two hand-held units are available. This equipment can be made available for use in teaching and research programs. QUBS also has a depth recorder which can be coupled with the GPS units. Available software enables production of detailed maps on site. See Frank Phelan or Floyd Connor to discuss use of this equipment.

GIS (Geographic Information System) Equipment: QUBS is developing a GIS which will store available information about QUBS properties and neighbouring lands. The system is based on AutoCad Map and is housed in the lower operations centre. Contact Frank Phelan or Floyd Connor for further details and access.

Lotek Ecological Observatory: In partnership with Queen's GIS Lab and Lotek Wireless Inc., a hydrophone array has been deployed in Warner Lake (completed 2003). To join the consortium and become a user of this high-tech development, contact QUBS management.

AudioVisual Equipment: QUBS has several slide projectors, two overhead projectors and various screens for use on site. The conference room and the upper Brown Lab have slide projectors readily available. A data projector and laptop are available for presentations. Contact QUBS management for details.

Aquarium: A variety of tanks for holding fish or for experimentation or observation is available at QUBS. Discuss needs with QUBS management.

Library: Basic reference material is contained in the Conference Room of the Operations Centre. Curran Library holdings are limited to incomplete runs of some journals and some of the more basic reference materials, field guides etc. QUBS has a reasonably complete collection of theses resulting from field work at the field station. Library materials are not to leave their respective buildings.

Weather Station: Fundamental data of physical environmental conditions are obtained at QUBS. The Assistant Manager, Mr. Floyd Connor is responsible for the operation of the weather station. Inputs are recorded for air temperature, relative humidity, rainfall, windspeed, wind direction, solar radiation, barometric pressure and three water temperatures. Data are available as computer files, on CD, hard copies or summaries on request.

Computers: For course use, QUBS management may allow access to computers. For e-mail access, the unit(s) in the lower foyer of the operations centre are available. Wireless access via your own computer is also available in the Operations Centre and S.R. Brown Lab.

Insect Collection: In the collections room of the upper Brown Lab, QUBS has a basic reference collection of local insects. Researchers interested in using or contributing to the collection should contact QUBS staff.

Photocopier: A photocopier is available in the office area of the operations centre. Record the number of copies produced in the logbook. You will be billed for each copy. Photocopying is subject to Provincial Sales Tax.

Optical Equipment: QUBS has a few microscopes available for on-site use. Presently, we have four compound microscopes (light microscopy capability), 10 dissecting microscopes and one quality teaching-head dissecting microscope. In addition, a dissecting 'scope and a compound 'scope are available which are fitted with cameras for teaching and research purposes. We also have a digital camera which can be attached to microscopes and computer. Also available are binoculars and a spotting scope and tripod. Access via QUBS staff.

Washer/Dryer: Coin-operated machines are located in the laundry room of the operations centre.

EMERGENCY NUMBERS FOR QUBS USERS

QUBS IS SERVICED BY THE

911 system

(Fire Department, Police and Ambulance)

QUBS IS LOCATED AT 280 QUEEN'S UNIVERSITY ROAD, TOWNSHIP OF RIDEAU LAKES, SOUTH CROSBY WARD

Emergency services can also be reached at:

ELGIN FIRE DEPARTMENT 359-5373

AMBULANCE 359-5390

Ontario Provincial Police 1-888-310-1122

Ontario Provincial Police (Elgin) 359-9911 (inquiries - office hours only)

POISON INFORMATION CENTRE 1-800-267-1373

EMERGENCY REPORT CENTRE (Queen's Campus) 533-6111